

death verified by necropsies performed by competent men. How are they really prepared? Except in cases of violence necropsies are not performed in one per cent. of the cases of death, and the alleged "cause" is merely a wild guess or a conventional statement by a practitioner who is not even required to state, or to know, that the patient is dead at all.

As an example of prevailing ignorance let me quote my own case. I find that I have certified considerably over a thousand "causes of death." Out of this thousand there were not ten cases verified by *post-mortem* examination. Not in 95 per cent. of the cases did I see the patient after death. It is quite possible that in 60 or 70 per cent. of the cases the "cause of death" was either erroneous or so vague as to be scientifically worthless.

Now, the Registrar General's Returns are made up of my thousand cases, and of the thousand cases of other practitioners who are probably not less ignorant than myself. Surely it is a savage farce to draw conclusions from data such as these?

In what percentage of cases are proper *post-mortem* examinations made? No definite figures are available, but the number appears to be less than one per cent.

I find that out of about 100,000 deaths there are about 1,600 from violence. These comprise the greater part of those which are the subject of coroners' inquests. Thus the very cases in which *post-mortem* examinations are actually held are those from which the least information of any value is derivable—for we do not want to know the cause of death where a man is killed by violence, but when he dies from disease.

Out of your 100,000 deaths there will be about 1,500 in lunatic asylums. A certain number of these will be the subject of necropsies, and we must confess that the yield of information afforded by them is not great; but really if a man be twenty or thirty years in an asylum it does not so much matter what he died of.

Deaths in workhouses and workhouse hospitals comprise a large proportion of every 100,000 deaths. In Ireland they would be about 10,500. The number of necropsies on these is very small indeed.

Let us look at the question in another way. There die in Great Britain about a million people every year. The State proposes to spend some £25,000,000 a year in preventing sickness and death. There are also actively engaged in warding off death some 30,000 doctors, who, at an average salary of £300 a year, receive some £9,000,000 annually for their services. And their endeavours are largely futile, and all the money spent must be largely wasted. Why? Because really we are working in the dark. We don't know what people die of. Our opinions as to the disease and the cause of death may be of the most fallacious and misinformed type possible; but instead of correcting them by a *post-mortem* inspection, we are allowed to embalm them in the Registrar General's Reports, and so lead others into the same morass of ignorance.

Death, we are told, comes in through the brain, the lungs, or the heart. It may well be so. If we continue to ascribe death to cardiac failure, dyspnoea, or convulsions, we may, perhaps, be right; but can any man suggest that we shall ever improve the science of medicine, or do anything really helpful to the State so long as we are satisfied with these vague generalities.

Further, I submit that we are led even further astray by those authorities who ought to be infallible. Glance at the Registrar General's "New

List of Causes of Death." You are begged not to state that your patient died of carbuncle, but you may certify he died of eczema. You are implored not to say that he died of peritonitis, but you may attribute his demise to an ulcer. You must not say a child died from gastric catarrh, but you can state that its fatal trouble was varicose veins. I doubt if caries pure and simple ever killed anyone, but I find I can certify that it did, whereas I cannot say that "heart disease" pure and simple killed a man. For the life of me I cannot see why a man should be permitted to state that "arthritis" was a cause of death, whilst he is warned off attributing it to "brain tumour." Why under heaven should abortion be put as a cause of death? We know, of course, that death will often follow it—just as it may follow the scratch of a pin, but surely it is not the cause—or, if it be, "childbirth" is a far commoner cause, and it is not recognised at all. What, then, is the sense of ascribing death, generically, to "Diseases of the Nose," "Diseases of the Eye"? To cap the climax you are exhorted to state, by the mystic letters P.M., when the cause of death has been verified by *post-mortem*, and when you write to the Registrar General for the number of deaths verified by *post-mortem* you find that no such list is available.

It is obvious that the healing art can never advance until we foresee that every blunder of ours will be made manifest at the *post-mortem* examination. It is as clear as the sun that medical treatment is mere blind muddling in the dark when we never know anything about our patient except that he died.

On the other hand, an immense mound of prejudice must be overcome before the public will submit to universal necropsies. It must be shown that the practice will put an end to the common horror of premature burial. It will gradually be seen that it protects every man from poisoning or foul play, as well as incompetence. We must realise that each of us ought to be proud if by his death he contributes something to a knowledge which may serve posterity. It cannot come to pass in a day, perhaps not even in a generation; but I suggest that if the Berlin Congress of the Royal Institute of Public Health marks the first public insistence on the necessity for necropsies it will have done good work for mankind.

## DEEP PETRISSAGE OF THE ABDOMEN AS AN AID TO THE DIAGNOSIS OF TAPEWORM.

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As a general rule, a patient is not suspected of having a tapeworm until segments are passed in the stools, which is naturally pathognomonic of the condition, any abdominal symptoms presented by an unsuspected case being ascribed (in the lack of further evidence) to dyspepsia; but there are sometimes sufficient grounds for believing that a tapeworm is present, even when no segments have been passed. In such a case the problem of diagnosis is sometimes a difficult one, unless the same measures are resorted to as when a tapeworm is known definitely to be present—namely, dieting and the administration of salines, followed by an anthelmintic and a brisk cathartic; thus the diagnosis and treatment are often combined. Many authorities hold, however, that these procedures are unjustifiable except in undoubted cases. The administration of a purgative alone, without an anthelmintic, is advised by some authors, the



motions being subsequently examined for segments and ova; but a purge by itself is apparently not always successful in bringing away proglottides, and examining the fæces for ova is a very unpleasant process. In any case, diagnosis by means of anthelmintics involves considerable discomfort and annoyance to the patient, temporarily interrupting the daily routine of work in a manner particularly harassing to busy people. When a diagnosis of tapeworm has been confirmed, drastic action of the nature referred to of course becomes necessary, but sometimes cases of unconfirmed suspicion occur, in which smart purgatives even by themselves are contraindicated and not to be made use of unless necessary—e.g., such conditions as severe hæmorrhoids.

The object of this paper is to direct attention (it is believed for the first time) to deep pétissage of the abdomen as an aid to the diagnosis of tapeworm. Cases in which the presence of a tapeworm is actually suspected without any supposed segments having been passed are indeed comparatively rare, but they do occur, and require elucidation and cure; and beyond this, the author himself has seen and further heard of several cases in which the parasites' presence was unsuspected until the pétissage caused proglottides to appear in the stools, cases in which this occurrence does not seem to have been of the nature of a coincidence. In one of these cases, the patient had taken all kinds of purgatives for the relief of constipation without passing any segments; I herewith quote such portions of the notes as bear essentially upon the point under discussion.

CASE. Mr. A. B., business man, æt. 50, came under observation September 12th, 1910. He complained of chronic constipation of about twenty years' standing, flatulence, and an "uneasy feeling" in the abdomen, referred to the umbilical region. He could not recall how long the latter condition had lasted, but it had been present for a long time. He had continually to resort to laxatives and enemas in order to produce a motion, and had tried all sorts of medicines for the relief of constipation. His appetite was good. Examination of the abdomen was negative except for some tenderness over the descending and iliac colon. His tongue was slightly furred.

It was thought at first that the subjective sensation in the abdomen was due to the constipation. The patient was advised to stop all purgatives and to undergo a course of mechanotherapeutical treatment, consisting of deep pétissage of the abdomen and active exercises directed toward strengthening the muscles of the abdominal wall.

After three treatments the patient passed one segment of a tapeworm independently of a motion. After another treatment he passed about twenty segments, which, on examination, appeared to be derived from a *Tænia solium*.

The patient was advised a light diet for twenty-four hours, and received two Seidlitz powders during the day. The following morning he took a drachm and a half of liquid extract of male fern fasting, followed two hours later by an ounce and a half of castor oil mixture. About three yards of worm were passed. The head was not found, but as the segments could not be examined immediately and had to be brought by the patient for the purpose, it is quite likely that he had overlooked the head and thrown it away with the remainder of the motions.

The umbilical sensation of uneasiness now became very much less, and had disappeared entirely ten days later. Mechanotherapeutical treatment, as

outlined above, had meanwhile been continued, ceasing October 28th, 1910.

I have seen this same patient at intervals since the latter date, the last time being November 22nd, 1911. He said that although he had very carefully watched his motions for proglottides, and had occasionally repeated the anthelmintic treatment, he had never passed any segments.

#### PÉTRISSAGE.

By deep abdominal pétissage is meant a series of circular movements executed in the direction of the large intestine with sufficient energy to cause a thorough kneading of the abdominal contents. In carrying it out, it is essential that the abdominal parietes and the fingers of the operator move as one over the underlying viscera, otherwise the process is resolved into a mere superficial effleurage, which hardly influences the viscera. It is not necessary for the pétissage to be executed very hard in order to achieve the desired end; and unless the technique is defective, it should cause no pain. When properly performed it presumably effects the dislodging of the proglottides in two ways—by promoting peristalsis and by mechanically separating segments of the distal end of the parasite by tearing through their attachments. Of these two actions, the latter is probably by far the most important. The increased peristalsis seems to act only as an adjuvant in expelling the separated segments, and probably no intensity of it can actually dislodge the head of the worm; nor does it seem possible to reach the point of achieving this by the merely mechanical effect of the pétissage. The latter is, therefore, only a means of diagnosis as regards tapeworm infection, and cannot replace the usual curative treatment.

#### CONCLUSIONS.

The advantages maintained for this method of establishing a diagnosis of tapeworm are briefly as follows:

1. It is entirely harmless, and reveals worms in some cases in which purgatives alone have apparently not been successful.
2. It does not interfere with the patient's regular work, and causes no discomfort worth mentioning. As a general rule, only about three or four applications of deep abdominal pétissage, each of fifteen minutes' duration, are required to establish a definite diagnosis.
3. It abolishes the unnecessary administration of purgatives, alone or in combination with anthelmintics, in cases when they are contraindicated.
4. It is apparently uniformly successful. The author's brother, Dr. Edgar F. Cyriax, has kindly allowed it to be stated here that he has carried out at least 30,000 deep pétissage treatments of the abdomen for many varieties of complaints, and that no case in his experience has yet occurred in which a patient was discovered to have a tapeworm within such a period of time after the conclusion of the treatment as would leave no doubt that the parasite had been present during it, and many of the patients were under observation for a long time. Moreover, several cases have occurred in this series in which, during the course of treatment for other complaints, the presence of a tapeworm was first revealed through such deep pétissage of the abdomen causing proglottides to be passed in the stools, no other symptoms having previously manifested themselves that could justify a suspicion of the actual fact.

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